

he left very much to be done. He did not pretend to explain the cause of all natural phenomena, nor had he the vanity to want to be the head of a sect; he was too modest and too great a lover of truth for that. But Descartes wanted to pass for the author of a new philosophy which could take the place of the Aristotelian, and he stuck to what he had once proposed though it was often very wrong. He has done a good deal of harm to the progress of philosophy, for those who believe in him imagine that they know the cause of everything; they waste time in sustaining the doctrines of their master, and do not work to penetrate the real reasons of the great number of phenomena as to which Descartes has only propounded idle fancies. A severe judgment, but not an undeserved one as regards the tenacity with which the followers of the Cartesian philosophy clung to the vortex theory, though it hardly accounted for any of the phenomena of planetary motion.

Probably owing to the infirmities of old age, Huygens during the period covered by this volume did not do any astronomical work, though he wrote to his brother Constantyn in 1693 that he had got a tube made for a 45-feet object glass, chiefly to show the moon and planets to persons of quality who could not manage a tubeless telescope, which was pointed to an object by cords. His interest in the use of pendulum clocks at sea was unabated, and there are several short letters on this subject. As the results of repeated trials were not favourable, Huygens endeavoured to find other means of realising isochronic motion, not subject to disturbance from the rolling of a ship, and designed several forms of balance of which a full account is to appear among his hitherto unpublished works.

There are fewer allusions to current political and other events in this volume than in the previous ones, but naturally the anti-Copernican action of the University of Louvain in 1691 is not passed over. The faculty of arts suspended Prof. van Welden for three years for asserting that the earth was one of the planets. He wrote to Huygens to beg for the intercession of Constantyn Huygens or of King William, but they do not appear to have done anything for him. During the last years of his life, Huygens wrote his well known little book "*Cosmotheoros*," which was not published until 1698, three years after the death of its author.

J. L. E. D.

PSYCHIATRY.

Manual of Psychiatry. By J. R. de Fursac. Translated by A. J. Rosanoff, and edited by Dr. J. Collins. Pp. xii + 352. (New York: Wiley and Sons; London: Chapman and Hall, Ltd., 1905.) Price 10s. 6d. net.

THE author has managed to compress a fairly large amount of information into this manual, but we are afraid that the subject-matter is almost too condensed for the reader who is not already conversant with the subject. This book is divided into two parts. The first portion is a general study of the causes, symptoms, and treatment of mental disorder, con-

sidered independently of the various affections in which they are encountered. The second portion is devoted to the study of the individual psychoses.

The volume is rather unevenly divided; some subjects are fully dealt with, but the description of others is somewhat meagre. The chapter on ætiology is very good, and this important problem is thoroughly reviewed. We cannot agree with the author in his conclusion that heart disease is common in the insane, and Strecker's figures as to the prevalence of this malady in German asylums, viz. 61.7 per cent for men and 42.7 per cent. for women, would not coincide with similar statistics obtained from English asylums.

In the chapter on general symptomatology the subject of hallucinations and their causation is briefly but well described. Throughout the volume it is very noticeable that purely psychological matters are dealt with in greater detail than other subjects of equal, if not of greater, interest to the practical physician. For example, the pages on treatment are undoubtedly the weakest in the book. Very little space is devoted to this important subject, and the reader is left very much in the dark as to the management of cases of mental disorder.

The author has evidently had the usual difficulty in finding a good classification of insanity. He states that in the absence of one that is founded upon a pathological anatomy basis he has chosen "the most practical, the most convenient, and the one which in any given case would enable us to establish the prognosis and institute the treatment." We quite agree that he has made the best choice in selecting Kraepelin's classification as the basis for his own scheme.

The first chapter in the second part is reserved for the consideration of the "infectious psychoses," of which the following are briefly reviewed:—febrile delirium, infectious delirium, and hydrophobia.

Under the heading of "Psychoses of Exhaustion," the author describes conditions of primary mental confusion and acute delirium. Toxic psychoses are divided into two divisions, (a) acute, (b) chronic, morphinomania and cocainomania being included in the second class. Dr. de Fursac recommends that, when possible, the rapid method of withdrawal of morphia should be employed in the treatment of morphinism, as he prefers this to the sudden and gradual methods sometimes employed.

The "auto-intoxication psychoses" include uræmia, the polyneuritic psychosis or Korsakoff's disease, dementia præcox, and general paresis. After thoroughly considering the relationship of syphilis to general paresis, the author states that "at the present time we have no conclusive evidence either for or against the syphilitic origin of general paresis."

The next chapters are devoted to the description of "psychoses dependent upon so-called organic cerebral affections," and "psychoses of involution." The latter include "affective melancholia" and "senile dementia." We do not like the term "affective melancholia"; it seems redundant, for clearly all forms of depression must be affective. Further, the author uses the term in a new sense, which causes

confusion. The chapter on senile dementia is distinctly good and very instructive.

Under "psychoses without a well-determined etiology, which are apparently based upon a morbid predisposition," are found manic-depressive insanity, paranoia, and constitutional psychopathic conditions, such as mental instability, sexual perversions and inversions and obsessions. Paranoia is very briefly described under the title of "Reasoning Insanity." We strongly disagree with the author in his use of this term; it is by no means a good one, and is, in addition, confusing, since other writers have used it as designating the maniacal stage of manic-depressive insanity.

Epilepsy and hysteria are described under the heading of "Psychoses Based on Neuroses," and the concluding chapter is devoted to the consideration of the arrest of mental development.

The book is well translated, and the index is carefully compiled. This manual undoubtedly has its merits, but, as we have already stated, it will scarcely appeal to the practitioner, as the description of treatment is somewhat meagre, and the student will find the subject-matter almost too condensed. In any future edition the author will do well to correct these defects, for by so doing he will render his book a useful manual on psychiatry.

OUR BOOK SHELF.

Experiments with Plants. By Dr. W. J. V. Osterhout. Pp. x+492; illustrated. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1905.) Price 5s. net.

THE author defines his aims in the following words (p. 7):—"The numerous questions which young people ask about plants are best answered by themselves. . . . To put them in the way of doing this so far as possible is the object of this book." In accordance with this plan, the apparatus used is of a rough and home-made description, constructed of fruit jars, lamp chimneys, clothes' pegs, india-rubber bands, and sealing-wax. Much ingenuity is shown in the design of apparatus so put together. Whether a sufficient degree of stability is always obtainable may perhaps be questioned, but from the author's point of view the advantages of his method certainly outweigh any such shortcomings. One great merit in the book is the insistence on the necessity of control experiments, which are especially needful with rough methods. The book is divided into chapters headed "The Work of Roots"—of leaves, of stems, &c.—ending up with a chapter on "Making New Kinds of Plants," which is a statement of what breeders and experimenters on variability have done rather than instructions for the making of such experiments.

The author very properly recommends common plants for use; but why students of botany should be confined to such names as "Kentucky Coffee Tree," "Dusty Miller," "Live Forever," "Switch Plant," it is difficult to say. Occasionally we find the scientific name, and in this way we learn that a "Wandering Jew" is a *Tradescantia*.

Most of the experiments are clearly described, but we have been puzzled over some of them. For instance (p. 191), the method of answering the question, "Does the leaf decompose carbon dioxide?" seems to us to involve passing a lighted candle under

water into a jar of air. Here and elsewhere in the book the author neglects simple and striking methods. It is important that the student should be convinced that oxygen is given off by green leaves in light. The above-mentioned experiment is not satisfactory, whereas Engelmann's blood method is both simple and convincing. Again, the well-known plan of counting the bubbles given off by submerged plants in light, though not free from errors, gives useful comparative data for the study of assimilation. In the same way we think that more fundamental experiments should have been given under the heading of "Stomata." Stahl's cobalt method, which is merely mentioned in a note, can be used by the most elementary of students to demonstrate important facts.

In spite of some faults, the book will be found of value to anyone compelled to give a course of physiological botany under conditions which preclude the use of ordinary laboratory fittings.

Conversations on Chemistry. Part i. General Chemistry. By W. Ostwald. Authorised translation by Elizabeth Catherine Ramsay. Pp. v+250. (New York: John Wiley and Sons; London: Chapman and Hall, Ltd., 1905.) Price 6s. 6d. net.

THE German original of this book has already received sympathetic notice in *NATURE*, and in connection with the translation now before us it is necessary to add little more than that Miss Ramsay has done her work with much skill, and has made the dialogue not less natural and vivacious than it is in the original. It is impossible to read the book without a feeling of refreshment and amusement, or without admiration of the ingenuity and resource of its philosophical author. It seems hardly fair to say that we have here a revival of Dr. Brewer or Mrs. Marcet. There are two striking differences between the old and the new dialogues. In the first place neither master nor pupil in Prof. Ostwald's book is endowed with that austere and depressing piety of mind which, to the unregenerate, provided perhaps the most afflicting feature of the older works. In the second place Prof. Ostwald's book shows a masterly treatment not only of the real difficulties of chemistry in itself, but a perfect appreciation of the pitfalls that beset the pupil in the early stages of learning. It is difficult to suppose that any teacher will fail to find something useful or to gain some valuable hints from reading the book, and on this ground it must be warmly recommended.

It would, however, be a misfortune if a teacher constrained his teaching to the exact course of the dialogue, and, of course, it would be worse still if he set so many pages as a lesson to be learned by the pupil. The real usefulness of the book will probably lie in the example it affords of the life that may be imparted to teaching when, on the one hand, the pupil is allowed a fair chance of thinking out things for himself and a full opportunity of frankly saying what he thinks, and when, on the other hand, the teacher takes the part of a guide, philosopher, and friend who has a soul above dictionaries and examination papers.

A. S.

Mathematical Recreations and Essays. By W. W. Rouse Ball. Fourth edition. Pp. xvi+402. (London: Macmillan and Co., Ltd., 1905.) Price 7s. net.

THIS edition differs from the third by containing chapters on the history of the mathematical tripos at Cambridge, Mersenne's numbers, and cryptography and ciphers, besides descriptions of some mathematical recreations previously omitted. The book has thus become more miscellaneous in character, but the additions fit in very well, and are all entertaining. Mr. Ball writes with enjoyment of his subject, and